

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANT: IMPELLIZZERI, Frederic

SERIAL NO.: 10/530,683

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EXAMINER: Hoffman, M. C.

TITLE: SELF-LOCKING OSTEOSYNTHESIS DEVICE

Amendment C: CLAIM AMENDMENTS

Claims 1 - 9 (canceled). These claims were canceled by an earlier amendment.

Claims 10 - 18 (canceled). These claims are canceled by the present amendment.

19. (Currently amended) A self-locking osteosynthesis device comprising:

a plate having a plurality of openings formed therein, each of said plurality of openings having a diameter and an edge forming a shoulder within said opening, said plate being formed of a metallic material;

a plurality of inserts respectively fixedly and non-rotationally received in said plurality of openings, each of said plurality of inserts defining a hole having a smooth wall and a diameter less than the diameter of the opening, each of said plurality of inserts being formed of a biocompatible polymeric material, each insert fixedly engaging said shoulder of said opening and having a width greater than said plate; and

a plurality of bone screws respectively received in said hole of said plurality of inserts, each of said plurality of bone screws having a thread on an outer surface thereof, said biocompatible polymeric material suitable for allowing a self-tapping of said smooth wall of said hole with the thread of said plurality of bone screws, said plurality of bone screws having a head locked in said plurality of inserts when the thread of the bone screw engages an underlying surface,

each head having a conical threading thereon, each insert being fixed relative to said plate when a respective bone screw is being angularly received in said hole of said plurality of inserts.

20. (Previously presented) The device of Claim 19, said plurality of inserts being formed of a thermoplastic polymer.

21. (Previously presented) The device of Claim 19, said plurality of inserts being formed of a polyether ether ketone material.

22. (Previously presented) The device of Claim 19, the hole having a conical shape.

23. (Previously presented) The device of Claim 19, said plate being formed of titanium.

24. (Canceled). This claim is canceled by the present amendment.

25. (Previously presented) The device of Claim 19, said plurality of inserts being mechanically secured respectively in said plurality of openings.

26. (Currently amended) A self-locking osteosynthesis device comprising:

a plate having a plurality of openings formed therein, each of said plurality of openings having a diameter and an edge forming a shoulder extended into each of said plurality of openings, said plate being formed of a metallic material;

a plurality of inserts respectively fixedly and non-rotationally received in said plurality of openings, each of said plurality of inserts defining a hole having a smooth wall and a diameter less than the diameter of the opening, each of said plurality of inserts being formed of a biocompatible polymeric material, each insert fixedly engaging said shoulder of said opening; and

a plurality of tapping screws threadedly secured respectively in the hole of said plurality of inserts, said biocompatible polymeric material suitable for allowing a self-tapping of said smooth wall of said hole by the tapping screw, each of said plurality of tapping screws having a head

formed at an end thereof, said head having a conical shape, said head having a conical threading formed thereon, said conical threading engaging said smooth wall of said hole, each insert being fixed when a respective tapping screw is being angularly received in said hole of said plurality of inserts.

27. (Currently amended) The device of Claim 26, said ~~plate having a shoulder extending into each of said plurality of openings, said shoulder engaging the insert so as to prevent a rotation of the insert~~ plurality of inserts having a generally conical shape.

28. (New) A self-locking osteosynthesis device comprising:

a plate having a plurality of openings formed therein, each of said plurality of openings having a diameter and an edge forming a shoulder extended into each of said plurality of openings, said plate being formed of a metallic material;

a plurality of inserts respectively fixedly and non-rotationally received in said plurality of openings, each of said plurality of inserts defining a hole having a smooth wall and a diameter less than the diameter of the opening, each of said plurality of inserts being formed of a biocompatible polymeric material, each insert fixedly engaging said shoulder of said opening; and

a plurality of tapping screws threadedly secured respectively in the hole of said plurality of inserts, said biocompatible polymeric material suitable for allowing a self-tapping of said smooth wall of said hole by the tapping screw, each of said plurality of tapping screws having a head formed at an end thereof, said head having a conical shape, said head having a conical threading formed thereon, said conical threading engaging said smooth wall of said hole, each insert being planarly fixed within said plate when a respective tapping screw is being angularly received in said hole of said plurality of inserts.